

DDT 114
Technical Illustration

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Office Hours

Monday and Wednesday 10-12
Tuesday and Thursday 1-3

Objectives:

1. The students will become proficient in sketching isometric and oblique drawings
2. The students will become proficient with 3-d modeling using AutoCAD to represent axonometric drawings
3. The students will become proficient in developing assembly drawings
4. The students will become proficient in developing exploded view drawings
5. The students will become proficient in developing scaled drawings from digital photo's
6. Students will become proficient with rendering 3-d models to enhance technical illustrations
7. Students will understand how geometry, lighting and materials affect rendered objects

Course competencies, Minimum coverage of topics:

1. Modeling in 3d CAD
 - a. Primitives (box, sphere cylinder etc.)
 - b. Extrusions (pedit, extrude)
 - c. Extrusions of faces
 - d. Threads (lisp routine)
2. Modifications to 3d models

- a. Union, subtract, intersect
 - b. Fillets & chamfers
 - c. Delete faces
 - d. Copy faces
 - e. Separate
 - f. Rotating 3D models
3. Designing with tolerancing
 - a. Measuring component parts (Vernier Calipers)
 - b. Allowances for fit (Milling table)
 - c. Assemblies of component parts (milling table and swing arm)
4. Rendering in AutoCAD to create photo realistic drawings
 - a. Materials
 - b. Lighting
 - c. Developing scenes
5. Development of scaled drawings
 - a. Inserting digital images into CAD
 - b. Developing scaled images
 - c. Model development with multiple user interface